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Road vehicles — Tachograph systems —

Part 4: Display unit communication interface

Véhicules routiers — Systèmes tachygraphes —

Partie 4: Interface de communication de l'unité d'affichage

Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 31, *Data communication*.

This third edition cancels and replaces the second edition (ISO 16844-4:2015), which has been technically revised.

The main changes are as follows:

— part 5 of this series (ISO 16844-5) has been removed due to its technical irrelevance,

— correction of the typos and mistakes in the text,

— adoption of the content according to the new version of the ISO guidelines,

— adoption of the content according to the new technical requirements,

— alignment of the content regarding to the referred standards.

A list of all parts in the ISO 16844 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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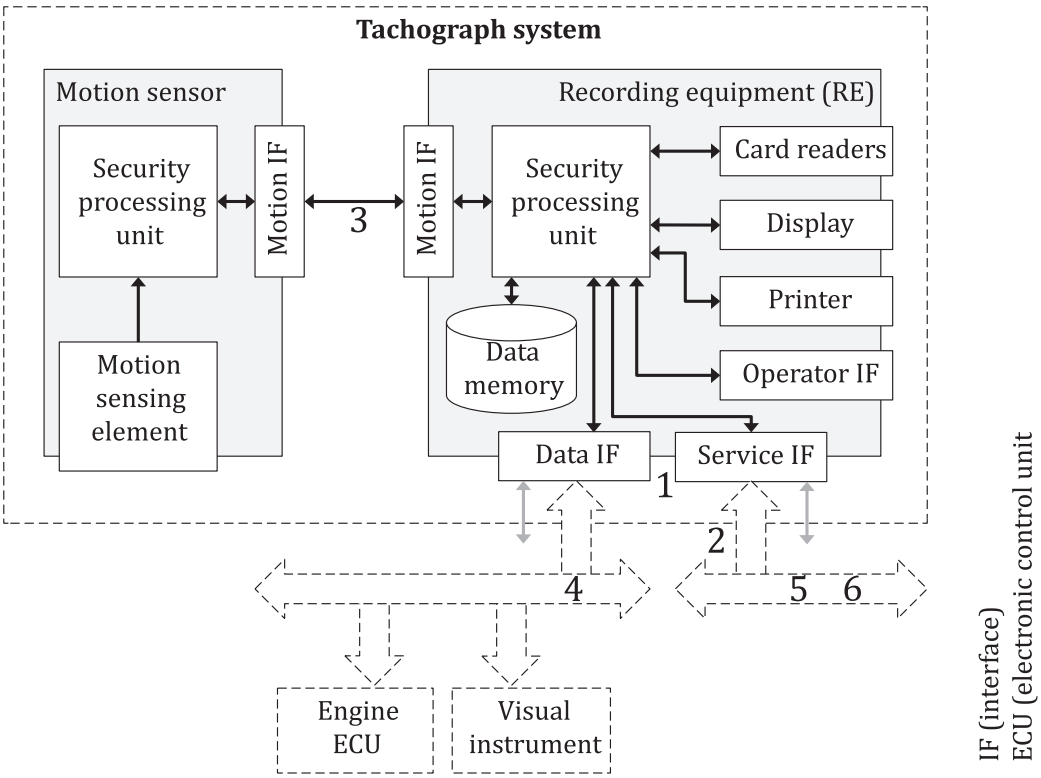
Introduction

This document supports and facilitates the communication between electronic control units (ECUs) and a digital tachograph.

The digital tachograph concept is based upon a recording equipment storing data, related to the activities of the various drivers driving the vehicle, on which it is installed.

During the normal operational status of the recording equipment, data stored in its memory are accessible to different entities (drivers, authorities, workshops, transport companies) in different ways (displayed on a screen, printed by a printing device, downloaded to an external device). Access to stored data is controlled by a smart card inserted in the tachograph.

A typical tachograph system is shown in Figure 1.



Key

1 data and service IF connector standardized in ISO 16844-1

2 electrical data and service IF requirements standardized in ISO 16844-2

3 communication interface between motion sensor and RE standardized in ISO 16844-3

4 CAN-based data IF including parameter groups standardized in this document

5 optional CAN-based service IF standardized in ISO 16844-6

6 data identifier (DID) specification for the optional service IF standardized in ISO 16844-7

Figure 1 — Typical ISO 16844-conformant tachograph system

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Road vehicles — Tachograph systems —

Part 4: Display unit communication interface

1 Scope

This document specifies the CAN-based data communication between the display unit and other devices connected to an SAE J1939-based in-vehicle network. The provided requirements and recommendations cover physical, data link, network, and application layers according to the OSI reference model. Additionally, it specifies the parameter groups, which are supported.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 11898-1, *Road vehicles — Controller area network (CAN) — Part 1: Data link layer and physical signalling*

ISO 16844-1, *Road vehicles — Tachograph systems — Part 1: Recording equipment data and service connector*

ISO 16844-7, *Road vehicles — Tachograph systems — Part 7: Parameters*

SAE J1939-11, *Physical Layer-250K bits/s, Twisted Shielded Pair*

SAE J1939-14, *Physical Layer, 500 Kbps*

SAE J1939-21, *Data Link Layer*[1)]

SAE J1939-71, *Vehicle Application Layer*

SAE J1939DA, *Digital Annex*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 16844-1 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
visual instrument
speedometer and display(s) for odometer and trip meter data

1) SAE does not use the terminology of the OSI reference model: the application and transport layer is named data link layer (SAE J1939/21) and the parameter value specification is named vehicle application layer (SAE J1939/71). The parameter specifications are provided in SAE J1939DA.

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